

## PATENT COOPERATION TREATY

## PCT

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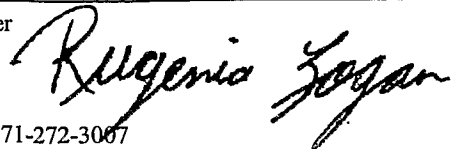
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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 020306WO	<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. PCT/US04/27722	International filing date (day/month/year) 25 August 2004 (25.08.2004)	Priority date (day/month/year) 28 August 2003 (28.08.2003)	
International Patent Classification (IPC) or national classification and IPC IPC: <b>H03D 1/00</b> ( 2007.01); <b>H04B 1/00</b> ( 2007.01), <b>1/10</b> ( 2007.01), <b>7/216</b> ( 2007.01) USPC: 375/134,137,142,143,145,149,150,152,343,350;370/320,335,342			
Applicant QUALCOMM INCORPORATED			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of ___ sheets, as follows:</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 14 March 2005 (14.03.2005)		Date of completion of this report 17 November 2006 (17.11.2006)	
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201		Authorized officer Khanh Tran Telephone No. 571-272-3067 	

**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on:
- ☒ the international application in the language in which it was filed.
- ☐ a translation of the international application into English, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4(a))
- ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))
2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
- ☒ the international application as originally filed/furnished
- ☒ the description:
- pages 1-23 as originally filed/furnished
- pages\* NONE received by this Authority on \_\_\_\_\_
- pages\* NONE received by this Authority on \_\_\_\_\_
- ☒ the claims:
- pages 24-33 as originally filed/furnished
- pages\* NONE as amended (together with any statement) under Article 19
- pages\* NONE received by this Authority on \_\_\_\_\_
- pages\* NONE received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- pages 1/9-9/9 as originally filed/furnished
- pages\* NONE received by this Authority on \_\_\_\_\_
- pages\* NONE received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/US04/27722**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

## 1. Statement

Novelty (N)	Claims <u>1-57</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>1-57</u>	YES
	Claims <u>NONE</u>	NO
Industrial Applicability (IA)	Claims <u>1-57</u>	YES
	Claims <u>NONE</u>	NO

## 2. Citations and Explanations (Rule 70.7)

Claims 1-57 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest the combination of generating estimated channel impulse response of combination of  $co_m(t) = co(t + mNT_c)$  and received data sequence as a correlator output, and filtering estimated channel impulse response wherein the filter is based on the spreading sequence, as claimed in claims 1, 20 and 39.

Claims 1-57 meet the criteria set out in PCT Article 33(4), and thus meet industrial applicability because the subject matter claimed can be made or used in industry.

## ----- NEW CITATIONS -----

US 5,623,511 A (BAR-DAVID et al) 22 April 1997, see column 10, lines 6-27

US 6,608,859 B2 (DE et al) 19 April 2003, see column 4, lines 37-63

US 2003/0035469 A1 (FRANK et al.) 20 February 2003, see paragraphs 0025-0028

**Box No. VIII Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claims 1-57 are objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 6 because claims are indefinite for the following reason(s):

In claim 1, line 11, "the first estimated" should be "the estimated", line 12, "generate the estimated" should be "generate the", and the variables  $k$ ,  $d_m$ ,  $\Lambda$ ,  $N$  and  $M$  should be defined in the claim.

In claim 3, line 2, "channel" should be "channel impulse response".

In claim 8, line 4, "less than" should be "and less than".

In claims 16-19, its dependency should be claim 9 to clarify its antecedent basis.

In claim 20, "the first estimated" should be "the estimated", line 12, "generate the estimated" should be "generate the", and the variables  $k$ ,  $d_m$ ,  $\Lambda$ ,  $N$  and  $M$  should be defined in the claim, and in line 13, "h(t) with" should be "h(t).".

In claim 22, line 3, "channel" should be "channel impulse response".

In claims 35-38, its dependency should be claim 28 to clarify its antecedent basis.

In claim 39, "the first estimated" should be "the estimated", line 12, "generate the estimated" should be "generate the", and the variables  $k$ ,  $d_m$ ,  $\Lambda$ ,  $N$  and  $M$  should be defined in the claim.

In claim 41, line 2, "channel" should be "channel impulse response".

In claim 47, line 4, "less than" should be "and less than".

In claims 54-57, its dependency should be claim 47 to clarify its antecedent basis.

Claims 2,4-7, 9-15,21,23-34,40,42-46,48-53 directly or indirectly depend on claim 1, 20 or 39.